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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/729,058	12/04/2003	Eung Don Lee	2013P136	9167
8791 7590 12/21/2007 BLAKELY SOKOLOFF TAYLOR & ZAFMAN 1279 OAKMEAD PARKWAY SUNNYVALE, CA 94085-4040			EXAMINER STOFFREGEN, JOEL	
			ART UNIT 2626	PAPER NUMBER
			MAIL DATE 12/21/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/729,058

Applicant(s)

LEE ET AL.

Examiner

Joel Stoffregen

Art Unit

2626

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 October 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 October 2007 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Response to Amendment

2. This communication is in response to applicant's amendment dated October 3, 2007. The applicant amended claims 1, 2, 8, and 9. Claims 1-9 are currently pending in this application. The previous objection to the claims has been withdrawn because the applicant amended the corresponding claims.

Response to Arguments

3. Applicant's arguments filed October 3, 2007 have been fully considered but they are not persuasive.

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., determining the transmission rate without using LPC and OLPD, see p. 7 of applicant's remarks) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

In response to the rejection of claims under 35 USC 112, the claim amendments do not address the issues cited in the rejection. Therefore the rejection is maintained.

Claim Rejections - 35 USC § 112

4. **Claims 1, 2, 3, 5, 7, 8 and 9** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The first limitation of claims 1, 2, and 9 allow for a choice between “at least one of a fixed code-book gain value, an adaptive code-book gain value, a noise to signal rate, and a pitch delay” (page 10, lines 5-7, lines 27-29 and page 12, lines 5-7). Subsequent limitations depend on only a portion of these features (e.g. “value that is predetermined for the adaptive code-book gain value” and “change in the ACBG value or a difference between the maximum value and the minimum value of the pitch delay”). Since it is possible to choose to use only one feature from the first limitation, the following limitations may not correspond to the chosen feature. For example, if only the “fixed code-book gain value” were chosen, the following limitations dependent on the “adaptive code-book gain value” could not be calculated.

Claim Rejections - 35 USC § 103

5. **Claims 1-9** are rejected under 35 U.S.C. 103(a) as being unpatentable over Gao et al. Patent No.: US 6,574,593 (“GAO”).

6. Regarding **claim 1**, GAO teaches an apparatus for determining a transmission rate, the apparatus comprising:

a speech/silence classifying portion, which classifies an input frame as speech or silence, ("determine if the pre-processed speech signal 308 is some form of speech or if it is merely silence or background noise", column 35, lines 49-51) based on a first threshold value that is predetermined ("using a set of predetermined threshold values", column 35, line 56) for at least one of a fixed code-book gain value, an adaptive code-book gain value, a noise to signal rate, and a pitch delay that correspond to an input parameter of a coded bit stream ("uses the parameters of the pitch lag and the adaptive codebook gain from recent frames", column 35, lines 66-67);

a voiced/unvoiced classifying portion, which classifies as voiced/onset or unvoiced an input frame that is classified as speech ("detection of an unvoiced noise-like speech frame", column 36, line 20), based on a second threshold value that is predetermined for the adaptive code-book gain value ("based on the pre-processed speech signal 308", column 36, lines 21-22, where the pre-processed speech signal contains adaptive codebook gain values, see column 36, lines 2-3);

a voiced/onset classifying portion, which classifies as voiced or onset an input frame that is classified as voiced/onset by the voiced/unvoiced classifying portion, based on a class of a previous frame ("determines whether a frame with a characterization as a voiced frame should be characterized as class 4—'Non-Stationary Voiced', or class 5—'Stationary Voiced'", column 42, lines 24-27);

a stationary/non-stationary classifying portion, which classifies as stationary or non-stationary an input frame that is classified as voiced by the voiced/onset classifying portion ("determines whether a frame with a characterization as a voiced frame should

characterized as class 4—'Non-Stationary Voiced', or class 5—'Stationary Voiced'", column 42, lines 24-27), based on a third threshold value that is predetermined for the amount of change in the ACBG value or a difference between the maximum value and the minimum value of the pitch delay ("characterization module 328 performs characterization using, for example, the pre-processed speech signal 308", column 37, lines 19-20, where the pre-processed speech signal contains adaptive codebook gain values and pitch lags, see column 36, lines 2-3); and

a transmission rate determining portion, which determines a transmission rate and a type of the determined transmission rate for an input frame, based on transmission rates and types of the transmission rates that are predetermined for a class of the input frame corresponding to the result of said classification of the input frame as speech or silence, as voiced or unvoiced, as voiced or onset, and as stationary or non-stationary ("rate selection is based on the characterization of the frame of the speech signal", column 10, lines 9-10, and "the final characterization class may also be used by the type classification module", column 42, lines 44,45).

7. Regarding **claim 2**, GAO teaches a method of determining a transmission rate in speech transcoding, the method comprising:

(a) classifying an input frame as speech or silence ("determine if the pre-processed speech signal 308 is some form of speech or if it is merely silence or background noise", column 35, lines 49-51) based on a first threshold value that is predetermined ("using a set of predetermined threshold values", column 35, line 56) for

at least one of a fixed code-book gain value, an adaptive code-book gain value, a noise to signal rate, and a pitch delay that correspond to an input parameter of a coded bit stream ("uses the parameters of the pitch lag and the adaptive codebook gain from recent frames", column 35, lines 66-67);

(b) classifying as voiced/onset or unvoiced an input parameter that is classified as speech ("detection of an unvoiced noise-like speech frame", column 36, line 20), based on a second threshold value that is predetermined for the amount of change in the ACBG value ("based on the pre-processed speech signal 308", column 36, lines 21-22, where the pre-processed speech signal contains adaptive codebook gain values, see column 36, lines 2-3);

(c) classifying as voiced or onset an input frame that is classified as voiced/onset, based on a class of a previous frame ("determines whether a frame with a characterization as a voiced frame should be characterized as class 4—'Non-Stationary Voiced', or class 5—'Stationary Voiced'", column 42, lines 24-27);

(d) classifying as stationary or non-stationary an input frame that is classified as voiced ("determines whether a frame with a characterization as a voiced frame should be characterized as class 4—'Non-Stationary Voiced', or class 5—'Stationary Voiced'", column 42, lines 24-27), based on a third threshold value that is predetermined for the amount of change in the ACBG value or a difference between the maximum value and the minimum value of the pitch delay ("characterization module 328 performs characterization using, for example, the pre-processed speech signal 308", column 37,

lines 19-20, where the pre-processed speech signal contains adaptive codebook gain values and pitch lags, see column 36, lines 2-3); and

(e) determining a transmission rate and a type of the determined transmission rate for an input frame, based on transmission rates and types of the transmission rates that are predetermined for a class of the input frame corresponding to the result of said classification of the input frame as speech or silence, as voiced or unvoiced, as voiced or onset, and as stationary or non-stationary (“rate selection is based on the characterization of the frame of the speech signal”, column 10, lines 9-10, and “the final characterization class may also be used by the type classification module”, column 42, lines 44,45).

8. Regarding **claim 3**, GAO further teaches that in step (a), the input frame is classified as speech or silence (“determine if the pre-processed speech signal 308 is some form of speech or if it is merely silence or background noise”, column 35, lines 49-51) based on the first threshold value that is predetermined (“using a set of predetermined threshold values”, column 35, line 56) for the adaptive code-book gain value corresponding to the input parameter (“uses the parameters of the pitch lag and the adaptive codebook gain from recent frames”, column 35, lines 66-67).

9. Regarding **claim 4**, GAO further teaches that the first threshold value is set to be smaller than the second threshold value (“characterizing the frame into one of 6 classes

according to the dominant features of the frame”, see column 36, lines 61-67, unvoiced/voiced classes are higher than the silence class).

10. Regarding **claim 5**, GAO further teaches that in step (a), the input frame is classified as speech or silence (“determine if the pre-processed speech signal 308 is some form of speech or if it is merely silence or background noise”, column 35, lines 49-51) based on a fourth threshold value that is predetermined (“using a set of predetermined threshold values”, column 35, line 56) for the difference between the maximum value and the minimum value of the pitch delay (“uses the parameters of the pitch lag and the adaptive codebook gain from recent frames”, column 35, lines 66-67).

11. Regarding **claim 6**, GAO further teaches that the fourth threshold value is set to be larger than the third threshold value (“characterizing the frame into one of 6 classes according to the dominant features of the frame”, see column 36, lines 61-67, stationary/non-stationary classes are higher than the silence class).

12. Regarding **claim 7**, GAO further teaches that in step (a), the input frame is classified as speech or silence (“determine if the pre-processed speech signal 308 is some form of speech or if it is merely silence or background noise”, column 35, lines 49-51) based on a fifth threshold value that is predetermined (“using a set of predetermined threshold values”, column 35, line 56) for the fixed code-book gain value (“based on monitoring a plurality of parameters”, column 35, line 60).

13. Regarding **claim 8**, GAO further teaches that the noise to signal ratio for the input frame is smaller than a sixth threshold value ("NSR calculation ensures that only true background noise is included in the ratio by using a modified voice activity decision", column 38, lines 4-6, therefore the NSR is smaller than a noise threshold value).

14. Regarding **claim 9**, GAO teaches a computer readable recording medium having recorded thereon a program for a method of determining a transmission rate in speech transcoding, the method comprising:

(a) classifying an input frame as speech or silence ("determine if the pre-processed speech signal 308 is some form of speech or if it is merely silence or background noise", column 35, lines 49-51) based on a first threshold value that is predetermined ("using a set of predetermined threshold values", column 35, line 56) for at least one of a fixed code-book gain value, an adaptive code-book gain value, a noise to signal rate, and a pitch delay that correspond to an input parameter of a coded bit stream ("uses the parameters of the pitch lag and the adaptive codebook gain from recent frames", column 35, lines 66-67);

(b) classifying as voiced/onset or unvoiced an input parameter that is classified as speech ("detection of an unvoiced noise-like speech frame", column 36, line 20), based on a second threshold value that is predetermined for the amount of change in the ACBG value ("based on the pre-processed speech signal 308", column 36, lines 21-

22, where the pre-processed speech signal contains adaptive codebook gain values, see column 36, lines 2-3);

(c) classifying as voiced or onset an input frame that is classified as voiced/onset, based on a class of a previous frame ("determines whether a frame with a characterization as a voiced frame should be characterized as class 4—'Non-Stationary Voiced', or class 5—'Stationary Voiced'", column 42, lines 24-27);

(d) classifying as stationary or non-stationary an input frame that is classified as voiced ("determines whether a frame with a characterization as a voiced frame should be characterized as class 4—'Non-Stationary Voiced', or class 5—'Stationary Voiced'", column 42, lines 24-27), based on a third threshold value that is predetermined for the amount of change in the ACBG value or a difference between the maximum value and the minimum value of the pitch delay ("characterization module 328 performs characterization using, for example, the pre-processed speech signal 308", column 37, lines 19-20, where the pre-processed speech signal contains adaptive codebook gain values and pitch lags, see column 36, lines 2-3); and

(e) determining a transmission rate and a type of the determined transmission rate for an input frame, based on transmission rates and types of the transmission rates that are predetermined for a class of the input frame corresponding to the result of said classification of the input frame as speech or silence, as voiced or unvoiced, as voiced or onset, and as stationary or non-stationary ("rate selection is based on the characterization of the frame of the speech signal", column 10, lines 9-10, and "the final

characterization class may also be used by the type classification module", column 42, lines 44,45).

Conclusion

15. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joel Stoffregen whose telephone number is (571) 270-1454. The examiner can normally be reached on Monday - Friday, 9:00 a.m. - 6:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Edouard can be reached on (571) 272-7603. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JS


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